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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/629,321	07/31/2000	THOMAS C. HILL	PF01869NA	4702

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EXAMINER

LEI, TSULEUN R

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 07/17/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

91

# Office Action Summary

Application No.

09/629,321

Applicant(s)

HILL ET AL.

Examiner

TSULEUN R. LEI

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S. C. 102(e) as being anticipated by Tiedemann, Jr. et al. (U.S. Patent 6,317,587).

Regarding Claim 1, Tiedemann teaches an apparatus comprising: at least one sensor communicating sensor added information to a communication device within a network to control a power consumption level of the communication device or another device within the wireless network (Col. 3, Lines 11- 16. It is apparent that transmission power control is a form of control of power consumption of the communication device.), or to adjust a network configuration of the network (Col.2, Lines 22-34. Gating the transmission can be regarded as adjusting a network configuration).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-6 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedemann as applied to claim 1 above, and further in view of Merriam (U.S. Patent 6,408,187).

Regarding Claim 2, Tiedemann teaches the apparatus as claimed in claim 1. Tiedemann fails to teach about a smart sensor. Merriam, however, teaches the at least one sensor includes a smart sensor capable of taking multiple types of measurements at programmable intervals and transmitting the measurements to the communication device at the programmable intervals (Merriam, Col.2, Lines 23-32, and Fig. 1). Therefore, it would have been obvious for a person of ordinary skill in the art at the time the invention was made to combine the teaching of Merriam to the teaching of Tiedemann to better control the transmission power.

Regarding Claim 3, Tiedemann as modified by Merriam teaches the apparatus as claimed in claim 1, wherein the communication device transmits the sensor added information to a central controller (Tiedemann, Col.5, Lines 63-67, sensor added information being the power

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control signals or detected frame errors transmitted from mobile to the base station; Fig. 1, information passed from base station to the controller).

Regarding Claim 4, Tiedemann as modified by Merriam teaches the apparatus as claimed in claim 1, wherein the communication device uses a service discovery protocol to look for a fixed position sensor for addition sensor information to adjust the power level of the communication device, wherein the mobile station (30) uses a procedure to look for the base station sensor (50) for updated power level information, wherein the procedure reads on the claimed "service discovery protocol" (Tiedemann, Col.5, Lines 52-56, & Fig.2).

Regarding Claim 5, Tiedemann as modified by Merriam teaches the apparatus as claimed in claim 1, wherein the at least one sensor includes a motion sensor, the motion sensor being used to place the communication device in a stand-by power mode when the communication device is moving or to place the communication device in an active mode when the communication device is still (Merriam, Col.4, Lines 1-8, Merriam teaches that if motion is sensed, the motion sensor outputs an affirmative indication of likelihood that a user is currently within relatively close proximity to the device, and to determine the behavior of the device accordingly, Col.3, Lines 26-36.). Tiedemann as modified by Merriam does not teach placing the communication device in a stand-by power mode or active mode, depending on the output of the motion sensor. However, changing the behavior of the device taught by Tiedemann and Merriam could have included the switching between stand-by and active mode by the motion sensor. Therefore, it would have been obvious for a person of ordinary skill in the art at the time

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the invention was made to have the motion sensor being used to place the communication device in a stand-by power mode when the communication device is moving or to place the communication device in an active mode when the communication device is still in the system taught by Tiedemann and Merriam to better control the behavior of the wireless communication device.

Regarding Claim 6, Tiedemann as modified by Merriam teaches the apparatus as claimed in claim 1, wherein the at least one sensor determines a position of the communication device and if the position of the wireless communication device is an active position, the communication device is placed in an active power mode and if the position of the communication device is an inactive position, the communication device is placed in a stand-by power mode (Merriam, Col.1, Line 56 to Col.2, Line 7, Merriam teaches that if the device is attached to the belt of a user, which is an active position, the vibration motor is placed in an active power mode, otherwise the vibration motor is in an inactive stand-by mode.).

Regarding Claim 13, Tiedemann teaches a method of improving battery life of a wireless communication device (Col.1, Lines 14-17. It is apparent that controlling transmission power would improve battery life of a wireless communication device.). Tiedemann does not teach a usage pattern. Merriam, however, teaches a method of sensing environmental conditions within a predetermined distance of the wireless communication device with a plurality of coupled sensors (Merriam, Col.1, Lines 59-67, proximity sensor is an example); determining a usage pattern match based on the sensed environmental conditions (Merriam, Col.2, Lines 23-33,

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behavioral pattern). Since both Tiedemann and Merriam both teach the use of sensor to modify the behavior of a wireless communication device, it would have been obvious for a person of ordinary skill in the art at the time the invention was made to combine the teaching of Merriam to the teaching of Tiedemann to better control the behavior of the wireless communication device. Tiedemann as modified by Merriam teach adjusting a power consumption level of the wireless communication device in accordance with the usage pattern match (Tiedemann, Col. 1, Lines 14-17, It is inherent that controlling transmission power is a form of adjusting power consumption level of the wireless communication device; And Merriam, Col. 2, Line 27, behavioral table being used to match the usage pattern.).

Regarding Claim 14, Tiedemann as modified by Merriam teaches the method as claimed in claim 13, wherein the plurality of sensors are selected from the group consisting of a motion sensor (Merriam, Col.2, Line 12), a crowd sensor (Merriam, Col.1, Line 61, proximity sensor), a range sensor (Merriam, Col.1, Line 61, proximity sensor), an inertial sensor (Merriam, Fig.2, mechanical sensor for vibration), an accelerometer sensor (Merriam, Col.2, Line 12, motion sensor) and a sound sensor (Merriam, Col.2, Line 12). Tiedemann as modified by Merriam does not teach light sensor or moisture sensor. However, there are many types of sensors available, and the inclusion of a light sensor and a moisture sensor is a design choice. Therefore, it would have been obvious for a person of ordinary skill in the art at the time the invention was made to have included a light sensor and a moisture sensor in the system taught by Tiedemann and Merriam to better control the behavior of the wireless communication device.

Regarding Claim 15, Tiedemann as modified by Merriam teaches the method as claimed in claim 13, wherein the wireless communication device switches from a stand-by power mode to an active mode when the sensed environmental conditions satisfy a predetermined condition and automatically transmits a predetermined message to a predetermined device after the predetermined condition is satisfied (Merriam Figs. 1 & 2).

5. Claims 7-12 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedemann and Merriam as applied to the claims above, and further in view of Hsu (U.S. Patent 6,374,079).

Regarding Claim 7, Tiedemann as modified by Merriam teaches a wireless network with sensors, but they fail to teach the master-slave relationship of the communications units. Hsu, however, teaches that the communication network comprise: at least one master device, each of the at least one master devices being capable of initiating an action or requesting a service on the wireless network; and a plurality of slave devices wirelessly connected to each other and to a corresponding master device (Hsu, Col.5, Lines 3-4 and Lines 20-23). Therefore, it would have been obvious for a person of ordinary skill in the art at the time the invention was made to combine the teaching of Hsu to the teaching of Tiedemann and Merriam to control the transmission power of communications devices having master-slave relationships. Tiedemann and Merriam as modified by Hsu teach that at least one of the plurality of slave devices or the master device including at least one sensor, wherein processed sensor information from the at



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least one sensor is shared by each of the plurality of slave devices and the corresponding master device (Hsu, Col.4, Lines 51-52).

Regarding Claim 8, Tiedemann and Merriam as modified by Hsu teach the wireless network as claimed in claim 7, wherein respective power levels of at least one of the plurality of slave devices or the corresponding master device are adjusted in accordance with the processed sensor information (Tiedemann, Col.3, Lines 11 - 16).

Regarding Claim 9, Tiedemann and Merriam as modified by Hsu teach the wireless network as claimed in claim 7, wherein at least one of the plurality of slave devices uses a service discovery protocol to look for a fixed position sensor for additional sensor information, the additional sensor information being used to select an alternate master device (Hsu, Col.5, Line 3-4, temporarily assigning).

Regarding Claim 10, Tiedemann and Merriam as modified by Hsu teach the wireless network as claimed in claim 7, wherein at least one of the plurality of slave devices uses the shared processed sensor information to select an alternate master device (Hsu, Col.5, Line 3-4, temporarily assigning).

Regarding Claim 11, Tiedemann and Merriam as modified by Hsu teach the wireless network as claimed in claim 7, further comprising a central controller connected to the at least one master device, wherein the central controller utilizes the processed sensor information to

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determine capacity allocation and device allocation of the plurality of slave devices and the corresponding master device to improve a capacity of the wireless network (Tiedemann, Col.2, Lines 22-34).

Regarding Claim 12, Tiedemann and Merriam as modified by Hsu teach the wireless network as claimed in claim 11, wherein the central controller utilizes the processed sensor information to adjust the device allocation of the plurality of slave devices and the corresponding master device to improve the capacity of the wireless network (Tiedemann, Col.2, Lines 22-34).

Regarding Claim 22, Tiedemann and Merriam as modified by Hsu teach the apparatus of claim 1, wherein the network configuration of the network is adjusted to readjust device allocation to a different device (Hsu, Col.5, Line 22, function as a slave or controlling module).

### ***Response to Amendment***

6. The amendment filed on 4/16/03 under 37 CFR 1.131 has been considered but is ineffective to overcome the prior art references.

Applicant argues that the Tiedemann reference does not teach the control of power consumption of a communication device. The Examiner is of the opinion that the control of power consumption is a very broad limitation and the control of the transmission power is in

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effect a control of power consumption. Also, the adjustment of network configuration is a very broad limitation, and gating the transmission can be regarded as adjusting a network configuration. Therefore, the references cited in the Office Action read on the claims of this application, and thus the claims are rejected.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TSULEUN R. LEI whose telephone number is 703-305-4828. The examiner can normally be reached on 8:30 to 5:00.

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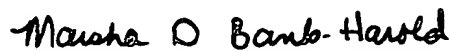
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D Banks-Harold can be reached on 703-305-4379. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5403 for regular communications and 703-308-5403 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



TRL

July 14, 2003



MARSHA D. BANKS-HAROLD  
SUPERVISORY PATENT EXAMINER  
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